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     FILE 'HCAPLUS' ENTERED AT 08:46:05 ON 13 JUL 2009
L1        41260 S DEXTRAN
L2          329 S DEXTRAN (4A) (PHOSPHATE OR PHOSPHORYLATED OR PHOSPHORYLATION
L3          255 S L2 AND (PY<2003 OR AY<2003 OR PRY<2003)

     FILE 'STNGUIDE' ENTERED AT 08:47:14 ON 13 JUL 2009

     FILE 'HCAPLUS' ENTERED AT 08:47:46 ON 13 JUL 2009
L4           39 S DEXTRAN (4A) (PHOSPHORYLATED OR PHOSPHORYLATION OR POLYPHOSPH
L5           30 S L4 AND (PY<2003 OR AY<2003 OR PRY<2003)
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=> file hcaplus
COST IN U.S. DOLLARS                                    SINCE FILE      TOTAL
                                                           ENTRY    SESSION
FULL ESTIMATED COST                                         0.22       0.22

FILE 'HCAPLUS' ENTERED AT 08:46:05 ON 13 JUL 2009
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FILE COVERS 1907 - 13 Jul 2009  VOL 151 ISS 3
FILE LAST UPDATED: 12 Jul 2009  (20090712/ED)
REVISED CLASS FIELDS (/NCL) LAST RELOADED:  Apr 2009
USPTO MANUAL OF CLASSIFICATIONS THESAURUS ISSUE DATE:  Apr 2009

HCAplus now includes complete International Patent Classification (IPC)
reclassification data for the second quarter of 2009.

CAS Information Use Policies apply and are available at:

http://www.cas.org/legal/infopolicy.html

This file contains CAS Registry Numbers for easy and accurate
substance identification.

=> s dextran
L1       41260 DEXTRAN

=> s dextran (4a) (phosphate or phosphorylated or phosphorylation or polyphosphate)
         41260 DEXTRAN
        630335 PHOSPHATE
         64369 PHOSPHORYLATED
        194615 PHOSPHORYLATION
         16561 POLYPHOSPHATE
L2         329 DEXTRAN (4A) (PHOSPHATE OR PHOSPHORYLATED OR PHOSPHORYLATION OR
               POLYPHOSPHATE)

=> s l2 and (PY<2003 or AY<2003 or PRY<2003)
      22984415 PY<2003
       4508460 AY<2003
       3978049 PRY<2003
L3         255 L2 AND (PY<2003 OR AY<2003 OR PRY<2003)

=> file stnguide
COST IN U.S. DOLLARS                                    SINCE FILE      TOTAL
                                                           ENTRY    SESSION
FULL ESTIMATED COST                                         5.70       5.92

FILE 'STNGUIDE' ENTERED AT 08:47:14 ON 13 JUL 2009
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FILE CONTAINS CURRENT INFORMATION.
LAST RELOADED: Jul 10, 2009 (20090710/UP).

=> file hcaplus
COST IN U.S. DOLLARS | SINCE FILE ENTRY | TOTAL SESSION
FULL ESTIMATED COST | 0.07 | 5.99

FILE 'HCAPLUS' ENTERED AT 08:47:46 ON 13 JUL 2009
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.

FILE COVERS 1907 - 13 Jul 2009 VOL 151 ISS 3
FILE LAST UPDATED: 12 Jul 2009 (20090712/ED)
REVISED CLASS FIELDS (/NCL) LAST RELOADED: Apr 2009
USPTO MANUAL OF CLASSIFICATIONS THESAURUS ISSUE DATE: Apr 2009

HCAplus now includes complete International Patent Classification (IPC)
reclassification data for the second quarter of 2009.

CAS Information Use Policies apply and are available at:

http://www.cas.org/legal/infopolicy.html

This file contains CAS Registry Numbers for easy and accurate
substance identification.

```
=> s dextran (4a) (phosphorylated or phosphorylation or polyphosphate)
         41260 DEXTRAN
         64369 PHOSPHORYLATED
        194615 PHOSPHORYLATION
         16561 POLYPHOSPHATE
L4          39 DEXTRAN (4A) (PHOSPHORYLATED OR PHOSPHORYLATION OR POLYPHOSPHATE
               )

=> s l4 and (PY<2003 or AY<2003 or PRY<2003)
      22984415 PY<2003
       4508460 AY<2003
       3978049 PRY<2003
L5          30 L4 AND (PY<2003 OR AY<2003 OR PRY<2003)

=> d l5 1-30 ti abs bib

L5   ANSWER 1 OF 30  HCAPLUS  COPYRIGHT 2009 ACS on STN
TI   Preparation of carotenoid ether analogs or derivatives for the inhibition
     and amelioration of liver disease
GI
```

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

AB A method of treating liver disease in a subject. The method may include administering to the subject an effective amount of a pharmaceutically acceptable formulation. The pharmaceutically acceptable formulation may include a synthetic analog or derivative I [Z = {CR3:CR3-(E)}z; z = 5 - 12; R3 = H, Me; Y = O, H2; X = P(:O)(OR1)2, S(:O)(OR1)2, X', alkyl-N+(R2)3, aryl-N+(R2)3, alkyl-CO2-, aryl-CO2-, N-protonated amino acid, phosphorylated N-protonated amino acid, polyethylene glycol, dextran, vitamin C, phosphorylated vitamin C, aryl; R1 = alkyl-N+(R2)3, aryl-N+(R2)3, alkyl-CO2-, aryl-CO2-, N-protonated amino acid, phosphorylated N-protonated amino acid, polyethylene glycol, dextran, H, alkyl, aryl, alkali salt; R2 = H, alkyl, aryl; (wherein X enhances the solubility of I allowing at least partial water solubility)] of a carotenoid. The subject may be administered a carotenoid analog or derivative, either alone or in combination with another carotenoid analog or derivative, or co-antioxidant formulation. The carotenoid analog may include a conjugated polyene with between 7 to 14 double bonds. The conjugated polyene may include a cyclic ring including at least one substituent. In some embodiments, a cyclic ring of a carotenoid analog or derivative may include at least one substituent. The substituent may be coupled to the cyclic ring with an ether functionality. Thus, astaxanthin disuccinate ascorbate diester was prepared from astaxanthin via acylation with succinic anhydride in CH2Cl2 containing EtNH(CHMe2)2 and catalytic DMAP followed by reaction with 2-O-(tert-butyldimethylsilyl)ascorbic acid in CH2Cl2 containing DMAP and EDCI·HCl. Astaxanthin disuccinate disodium salt was tested for its water solubility, ability to induce Connexin 43 protein expression, induce intercellular gap junction communication, inhibition of carcinogen-induced neoplastic transformation, reduce superoxides in neutrophils, and its plasma pharmacokinetics.

AN 2005:99144 HCAPLUS <<LOGINID::20090713>>
DN 142:198233
TI Preparation of carotenoid ether analogs or derivatives for the inhibition and amelioration of liver disease
IN Lockwood, Samuel Fournier; O'Malley, Sean; Watumull, David G.; Hix, Laura M.; Jackson, Henry; Nadolski, Geoff
PA USA
SO U.S. Pat. Appl. Publ., 130 pp., Cont.-in-part of U.S. Ser. No. 629,538.
CODEN: USXXCO
DT Patent
LA English
FAN.CNT 16

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 20050026874	A1	20050203	US 2004-793681	20040304 <--
	US 20040162329	A1	20040819	US 2003-629538	20030729 <--
	US 7145025	B2	20061205		
	US 20050065097	A1	20050324	US 2004-793696	20040304 <--
	US 20050075337	A1	20050407	US 2004-793702	20040304 <--
	US 20060229446	A1	20061012	US 2006-357897	20060217 <--
PRAI	US 2002-399194P	P	20020729	<--	
	US 2003-467973P	P	20030505		
	US 2003-472831P	P	20030522		
	US 2003-473741P	P	20030528		
	US 2003-485304P	P	20030703		
	US 2003-629538	A2	20030729		

OS CASREACT 142:198233; MARPAT 142:198233

L5 ANSWER 2 OF 30 HCAPLUS COPYRIGHT 2009 ACS on STN
TI Phosphorylated dextran as immunopotentiator
AB It is clarified that an immunopotentiation activity can be imparted to dextran, which shows no immunol. activity, by chemical phosphorylating it. The phosphorylated dextran is a B cell mitogen, activates dendritic cells and induces IL-10 and IFN-γ. Thus, it is expected as being effective in preventing infectious diseases and colitis and preventing allergic diseases by maintaining the Th1/2 balance. Phosphorylated dextran was prepared from dextran and polyphosphoric acid, and its blastogenic effect on mouse spleen cells was examined
AN 2004:80514 HCAPLUS <<LOGINID::20090713>>
DN 140:151931
TI Phosphorylated dextran as immunopotentiator
IN Saito, Tadao; Kitazawa, Haruki
PA Meiji Dairies Corporation, Japan
SO PCT Int. Appl., 51 pp.
CODEN: PIXXD2
DT Patent
LA Japanese
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2004009099	A1	20040129	WO 2003-JP9324	20030723 <--
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, KE, KG, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
	RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
	JP 2004107316	A	20040408	JP 2003-50739	20030227 <--
	AU 2003252244	A1	20040209	AU 2003-252244	20030723 <--
	EP 1543833	A1	20050622	EP 2003-765361	20030723 <--
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
	US 20060154896	A1	20060713	US 2005-522047	20051020 <--
PRAI	JP 2002-213305	A	20020723	<--	
	JP 2003-50739	A	20030227		
	WO 2003-JP9324	W	20030723		

RE.CNT 1 THERE ARE 1 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 3 OF 30 HCAPLUS COPYRIGHT 2009 ACS on STN
TI Phosphorylated sugar alcohols from basidiomycetes and dextran as antiviral drugs and health foods
AB Phosphorylated sugar alcs. (including β-glucan)from basidiomycetes and dextran prepared by pretreatment with ZnCl2 and urea melting or enzyme method are claimed as antiviral drugs (e.g. against HIV1) and health foods.
AN 2003:166958 HCAPLUS <<LOGINID::20090713>>
DN 138:163508
TI Phosphorylated sugar alcohols from basidiomycetes and dextran as antiviral drugs and health foods
IN Akabane, Toru; Kitani, Yoshiyasu; Baba, Masanori; Tadano, Toshio
PA Uma K. K., Japan
SO Jpn. Kokai Tokkyo Koho, 4 pp.

CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI JP 2003063968	A	20030305	JP 2001-295057	20010823 <--
PRAI JP 2001-295057		20010823 <--		

L5 ANSWER 4 OF 30 HCAPLUS COPYRIGHT 2009 ACS on STN
TI EGF and dextran-conjugated EGF induces differential phosphorylation of the EGF receptor
AB Dextran-conjugated EGF (EGF-dextran) has a potential use for targeted radionuclide therapy of tumors that overexpress the epidermal growth factor receptor (EGFR). There are plans to treat both bladder carcinomas and malignant gliomas with local injections of radiolabeled EGF-dextran since these tumors often express high levels of EGFR. The authors show that EGF and EGF-dextran differentially activate the EGFR. In the human glioma cell line U-343, activation of the serine/threonine kinases Erk and Akt is identical upon stimulation with EGF or EGF-dextran. However, the effect on phospholipase Cγ1 (PLCγ1) phosphorylation differs. In cells stimulated with EGF-dextran, the PLCγ1 phosphorylation is lower than in cells stimulated with EGF. This observation could be explained by the fact that the PLCγ1 association sites in the EGFR, tyrosine residues 992 and 1173, were phosphorylated to a lower degree when the receptor was stimulated with EGF-dextran as compared to with EGF.
AN 2002:850912 HCAPLUS <<LOGINID::20090713>>
DN 138:117931
TI EGF and dextran-conjugated EGF induces differential phosphorylation of the EGF receptor
AU Haegg, Maria; Liljegren, Asa; Carlsson, Joergen; Roennstrand, Lars; Lennartsson, Johan
CS Biomedical Center, Ludwig Institute for Cancer Research, Uppsala, SE-751 24, Swed.
SO International Journal of Molecular Medicine (2002), 10(5), 655-659
CODEN: IJMMFG; ISSN: 1107-3756
PB International Journal of Molecular Medicine
DT Journal
LA English
RE.CNT 25 THERE ARE 25 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 5 OF 30 HCAPLUS COPYRIGHT 2009 ACS on STN
TI Intestinal infection with Giardia spp. reduces epithelial barrier function in a myosin light chain kinase-dependent fashion
AB Giardiasis causes malabsorptive diarrhea, and symptoms can be present in the absence of any significant morphol. injury to the intestinal mucosa. The effects of giardiasis on epithelial permeability in vivo remain unknown, and the role of T cells and myosin light chain kinase (MLCK) in altered intestinal barrier function is unclear. This study was conducted to determine whether Giardia spp. alters intestinal permeability in vivo, to assess whether these abnormalities are dependent on T cells, and to assess the role of MLCK in altered epithelial barrier function. Immunocompetent and isogenic athymic mice were inoculated with axenic Giardia muris trophozoites or sterile vehicle (control), then assessed for trophozoite colonization and gastrointestinal permeability. Mechanistic studies using nontransformed human duodenal epithelial monolayers (SCBN) determined the effects of Giardia on myosin light chain (MLC) phosphorylation, transepithelial fluorescein isothiocyanate-dextran fluxes,

cytoskeletal F-actin, tight junctional zonula occludens-1 (ZO-1), and MLCK. Giardia infection caused a significant increase in small intestinal, but not gastric or colonic, permeability that correlated with trophozoite colonization in both immunocompetent and athymic mice. In vitro, Giardia increased permeability and phosphorylation of MLC and reorganized F-actin and ZO-1. These alterations were abolished with an MLCK inhibitor. Conclusions: Disruption of small intestinal barrier function is T cell independent, disappears on parasite clearance, and correlates with reorganization of cytoskeletal F-actin and tight junctional ZO-1 in an MLCK-dependent fashion.

AN 2002:839408 HCAPLUS <<LOGINID::20090713>>
DN 138:120766
TI Intestinal infection with Giardia spp. reduces epithelial barrier function in a myosin light chain kinase-dependent fashion
AU Scott, Kevin G.-E.; Meddings, Jonathon B.; Kirk, David R.; Lees-Miller, Susan P.; Buret, Andre G.
CS Department of Biological Sciences, University of Calgary, AB, Can.
SO Gastroenterology (2002), 123(4), 1179-1190
CODEN: GASTAB; ISSN: 0016-5085
PB W. B. Saunders Co.
DT Journal
LA English
RE.CNT 60 THERE ARE 60 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 6 OF 30 HCAPLUS COPYRIGHT 2009 ACS on STN
TI Dextran Sulfate Inhibits IFN-γ-Induced Jak-Stat Pathway in Human Vascular Endothelial Cells
AB Human vascular endothelial cells can be induced by IFN-γ to express class II MHC proteins. Previously, dextran sulfate was shown to selectively inhibit expression of class II MHC by preventing transcription of the gene encoding CIITA, a transactivator protein required for IFN-γ-inducible expression of class II genes. Here, the authors characterized the effects of dextran sulfate on the intracellular events occurring prior to CIITA activation. Immunopptn. and Western blot analyses indicated that IFN-γ-induced phosphorylation of Stat1 and Jak2 was blocked by dextran sulfate. In addition, electron micrographs showing the large accumulation of dextran sulfate particles in the cytoplasms of endothelial cells demonstrated that Stat and Jak proteins may directly interact with dextran sulfate. Binding of radiolabeled IFN-γ to cells indicated that dextran sulfate may also modulate IFN-γ interactions with the cell surface. Thus, dextran sulfate is capable of interfering with the IFN-γ-induced expression of class II MHC genes at multiple sites. (c) 1999 Academic Press.
AN 1999:191152 HCAPLUS <<LOGINID::20090713>>
DN 131:39387
TI Dextran Sulfate Inhibits IFN-γ-Induced Jak-Stat Pathway in Human Vascular Endothelial Cells
AU Lian, Rebecca H.; Kotwal, Girish J.; Hunt, Lawrence A.; Wilson, Mark A.; Justus, David E.
CS Department of Microbiology and Immunology, University of Louisville School of Medicine, Louisville, KY, 40292, USA
SO Cellular Immunology (1999), 192(2), 140-148
CODEN: CLIMB8; ISSN: 0008-8749
PB Academic Press
DT Journal
LA English
RE.CNT 42 THERE ARE 42 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 7 OF 30 HCAPLUS COPYRIGHT 2009 ACS on STN

TI Dextran strongly increases the Michaelis constants of oxidative phosphorylation and of mitochondrial creatine kinase in heart mitochondria

AB Macromols. restore the morphol. changes which occur upon isolation of mitochondria in normally used isolation media. It was shown that in the presence of dextrans the permeability of mitochondrial outer membrane for adenine nucleotides decreases which may have considerable implications for the transport of ADP into the mitochondria. In this study the effect of dextran on the apparent Michaelis consts. of oxidative phosphorylation and mitochondrial creatine kinase (mi-CK) of rat heart mitochondria was investigated. Mitochondria were isolated either in normally used isolation media or in the addnl. presence of 15% dextran 20 in order to avoid changes in the oncotic conditions on the mitochondria during preparation and investigation. Except for an increased contamination with extramitochondrial ATPases the basic functional properties of these mitochondria were normal. With oxygraphic measurements it was found that KmADP of oxidative phosphorylation increased from 16±4 μM ADP (without dextran) to 50±15 μM (15% dextran 20) and to 122±62 μM (25% dextran 20) irresp. of the mode of preparation of the mitochondria. Using spectrophotometric measurements the effect of dextran on the KmATP of mi-CK was investigated in three systems (a) as soluble enzyme, (b) bound to mitoplasts, (c) and in intact rat heart mitochondria. The addition of 10% dextran had no effect on kinetic properties of solubilized mi-CK. In intact heart mitochondria, however, the addition of dextran caused an augmentation of KmATP from 332±91 μM (control) to 525±150 μM ATP (10% dextran) and 641±160 μM ATP (30% dextran). In mitoplasts the effect of dextran disappeared (control, 230±19 μM ATP; 10% dextran, 238±28 μM ATP) indicating that the outer mitochondrial membrane is a prerequisite for the modulation of the transport of adenine nucleotides into the intermembrane space by macromols. To investigate the effects of viscosity of dextran solns. on the diffusion of adenine nucleotides across the outer membrane, dextrans with different mol. size (20, 40 70 and 500 kDa) were used. The viscosity of the 10% solns. drastically increased with the mol. size of the dextrans used, but the effects of different dextran solns. on the kinetic consts. were the same. From these results it was concluded that neither the viscosity nor the molar concentration but the content of macromols. (mass/volume) correlates with restrictions of diffusion into the intermembrane space of mitochondria with intact outer membranes. Assuming that a dextran concentration of 15% mimicks the intracellular oncotic pressure on mitochondria in vivo, the apparent KmADP of oxidative phosphorylation within the intact cell seems to be about 50 μM ADP which is somewhat higher than the cytoplasmic free ADP concentration as reported for the intact heart.

AN 1998:348386 HCAPLUS <<LOGINID::20090713>>

DN 129:105878

OREF 129:21677a,21680a

TI Dextran strongly increases the Michaelis constants of oxidative phosphorylation and of mitochondrial creatine kinase in heart mitochondria

AU Gellerich, Frank Norbert; Laterveer, Fanny Dorine; Korzeniewski, Bernard; Zierz, Stephan; Nicolay, Klaas

CS Muskellabor der Neurologischen Klinik der Martin-Luther-Universitat Halle, Halle/Saale, D-06079, Germany

SO European Journal of Biochemistry (1998), 254(1), 172-180
CODEN: EJBCAI; ISSN: 0014-2956

PB Springer-Verlag

DT Journal

LA English

RE.CNT 35 THERE ARE 35 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 8 OF 30 HCAPLUS COPYRIGHT 2009 ACS on STN

TI Polyanion regulation of the plant-encoded double-stranded RNA-dependent

protein kinase (pPKR)
AB The only known activators of the plant encoded, double-stranded RNA (dsRNA) dependent protein kinase (pPKR) are dsRNAs and single-stranded RNA (ssRNA) with extensive intramol. base pairing such as viroid RNAs. DNA, DNA-RNA hybrids, and most ssRNAs do not stimulate phosphorylation. However, the in vivo phosphorylation of pPKR in the cytoplasm of healthy cells suggests that alternate activators may be present. Here, it is shown that select polyanions, including heparin and dextran sulfate, stimulate pPKR phosphorylation in a concentration-dependent fashion. Further, pPKR specifically binds to heparin-agarose indicating the presence of a polyanion-binding domain. The functional significance of polyanion regulation of pPKR may be suggested by inhibition of the in vitro translation of brome mosaic virus RNA in wheat germ exts. in the presence of heparin. These studies further establish the analogy between pPKR and the mammalian interferon-induced, dsRNA-dependent protein kinase, PKR, and present possibilities for the activation of pPKR in healthy cells.
AN 1996:517923 HCAPLUS <<LOGINID::20090713>>
DN 125:189145
OREF 125:35275a
TI Polyanion regulation of the plant-encoded double-stranded RNA-dependent protein kinase (pPKR)
AU Langland, Jeffrey O.; Langland, Lisa A.; Roth, Don A.
CS Department Plant, Soil, and Insect Sciences, University Wyoming, Laramie, WY, 82071-3354, USA
SO Plant Physiology and Biochemistry (Paris) (1996), 34(4), 521-526
CODEN: PPBIEX; ISSN: 0981-9428
PB Gauthier-Villars
DT Journal
LA English

L5 ANSWER 9 OF 30 HCAPLUS COPYRIGHT 2009 ACS on STN
TI Phosphorylated sugars as metal complexing agents and method for producing the same
AB A phosphorylated sugar containing at least one P(O)(OH)2 group or its conjugate with protein or peptide is prepared, wherein said sugar is selected from glucan, mannan, dextran, gelatin, cyclodextrin, fucoidan, gellan gum, locust bean gum, guar gum, tamarind gum, and xanthan gum. In particular, a phosphorylated glucan is prepared by reaction of starch or modified starch having P(O)(OH)2 groups with starch hydrolase (α-amylase, β-amylase, glucoamylase, isoamylase, pullulanase, neopullulanase, or their combination) or sugar transferase, in particular cyclodextrin glucanotransferase. A fertilizer, feed, food, beverage, oral composition, cleaning composition, or additive composition thereof contains said phosphorylated sugar. This phosphorylated sugar forms complexes or compds. with minerals such as Ca, alkaline earth metals, and iron, is capable of keeping them from insolubilizing, (i.e. can prevent their precipitation and solubilize them), and thereby enhance the bioabsorption of minerals. It is not utilized by Streptococcus mutans which causes tooth decay, is suitable as agents for preventing tartar on the teeth, hardly digested in vivo by enzymes to give no calorie, can buffer pH synergistically in the presence of CaCO3, prevents degradation of starch, and is odorless and tasteless. Thus, a 1% potato starch was dissolved in a 5 mL solution containing 2 mM CaCl2 and 6 mM NaCl, while rapidly heating to 100° for forming a paste, treated with 35 U α-amylase, kept at 50° for 30 min, and then treated with 2 U pullalanase and 6 U glucoamylase and allowed to react at 40° for 20 h to give, after chromatog. purification using Chitopearl BCW 250 (anion exchange column), a phosphorylated glucan containing α-(1→4)-bonded ≥2 to <8 glucose units and ≥2

P(O)(OH)2 groups. The latter compound was effective for preventing Ca from precipitating as CaHPO4 in weak alkaline condition similar to that in intestine and a diet containing this compound increased Ca absorption and in vivo retention in rats.

AN 1996:443926 HCAPLUS <<LOGINID::20090713>>
DN 125:87100
OREF 125:16449a,16452a
TI Phosphorylated sugars as metal complexing agents and method for producing the same
IN Kamasaka, Hiroshi; Okada, Shigetaka; Kusaka, Kaname; Yamamoto, Kazuya; Yoshikawa, Kenji
PA Ezaki Glico Co, Japan
SO Jpn. Kokai Tokkyo Koho, 27 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 08104696	A	19960423	JP 1995-121984	19950519 <--
	JP 3240102	B2	20011217		
	JP 2002020398	A	20020123	JP 2001-144025	19950519 <--
	JP 2002037796	A	20020206	JP 2001-144026	19950519 <--
	EP 719783	A2	19960703	EP 1995-250197	19950810 <--
	EP 719783	A3	19990210		
	EP 719783	B1	20020710		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, MC, NL, PT, SE				
	AT 220406	T	20020715	AT 1995-250197	19950810 <--
	US 5861048	A	19990119	US 1995-514478	19950811 <--
	US 6268182	B1	20010731	US 1996-719864	19960925 <--
PRAI	JP 1994-222368	A	19940811	<--	
	JP 1995-121984	A3	19950519	<--	
	US 1995-514478	A3	19950811	<--	

L5 ANSWER 10 OF 30 HCAPLUS COPYRIGHT 2009 ACS on STN
TI A polyamine-dependent casein type 2 kinase in rat brain tissue.
AB A polyamine-dependent protein kinase (PPK) from normal rat brain was identified, partially purified, and characterized. The enzyme had a mol. weight near 500,000 daltons (without NaCl) and 150,000 daltons (in presence of 0.3 M NaCl). It phosphorylated 2 "bound" protein substrates, casein, and histone I. The enzyme was stimulated by heparin and dextran sulfate. The substrate specificity was modified depending upon the absence or presence of exogenously added substrates, activators, or inhibitors. For example, casein and histone I were minimally phosphorylated in the absence of activator, but showed 7-fold and 10-fold increases in phosphorylation in the presence of polylysine; while in the phosphorylation of bound protein substrates (S1 and S2) phosphorylation of S1 increased 3-4-fold in the presence of polylysine, but phosphorylation of S2 increased 3 fold in the presence of casein plus polylysine. Dextran sulfate-inhibited polylysine-stimulated phosphorylation of S2 increased 3-fold in the presence of casein plus polylysine. Dextran sulfate inhibited polylysine. Dextran sulfate inhibited polylysine-stimulated phosphorylation of casein by 99.99%, however it only inhibited polylysine-stimulated phosphorylation of S2 by 50-60%. The authors suggest that potential substrates for protein kinases should be identified by studying these enzymes in the absence and presence of known activators, inhibitors, and competing substrates.
AN 1993:554560 HCAPLUS <<LOGINID::20090713>>
DN 119:154560
OREF 119:27557a,27560a

TI A polyamine-dependent casein type 2 kinase in rat brain tissue.
AU Akar, A. Candan; Criss, Wayne E.
CS Fac. Med., Hacettepe Univ., Ankara, Turk.
SO Biyokimya Dergisi (1992), 17(3), 1-18
CODEN: BIDEDV; ISSN: 0250-4685
DT Journal
LA English

L5 ANSWER 11 OF 30 HCAPLUS COPYRIGHT 2009 ACS on STN
TI Phosphorylated polyhydroxy compounds for tartar control
AB An anticariogenic anticalculus dentifrice comprise an anticariogenic agent and an antitartar agent. The antitartar agent is formed by phosphorylation of a plyhydroxy compound with mol. weight ≤5000 kDa. The phosphorylated polyhydroxy compound has a molar substitution of ≤2 based on mol. weight of an average repeat unit in th starting polyhydroxy compound and possesses phosphate ester linkage satisfying at least 1 criteria of (a) ≥1 multi-substituted phosphate ester linked through an O to a single C of the polyhydroxy compound, and (b) ≥2 monophosphate groups separated by ≤ 3 C. Dextran (I) was added to a solution of polyphosphric acid, tri-N-butylamine, and N,N-dimethylforamide and heated to 120° for 6h, then it was poured into EtOH. Saturated NaCl solution was added to the above mixture to aid polymer precipitation followed by
purification and lyophilization of precipitate to obtain a white powder. Formulation
of a toothpaste containing the phosphorylated I is given.
AN 1993:197835 HCAPLUS <<LOGINID::20090713>>
DN 118:197835
OREF 118:33861a,33864a
TI Phosphorylated polyhydroxy compounds for tartar control
IN Spaltro, Suree Methmanus; Aronson, Michael Paul
PA Unilever N. V., Neth.; Unilever PLC
SO Eur. Pat. Appl., 10 pp.
CODEN: EPXXDW
DT Patent
LA English
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI EP 512599	A2	19921111	EP 1992-201108	19920421 <--
EP 512599	A3	19930512		
EP 512599	B1	19951220		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, NL, PT, SE				
US 5202111	A	19930413	US 1991-697835	19910509 <--
AT 131721	T	19960115	AT 1992-201108	19920421 <--
PRAI US 1991-697835	A	19910509	<--	

L5 ANSWER 12 OF 30 HCAPLUS COPYRIGHT 2009 ACS on STN
TI Method for immobilizing polyphosphate-glucose phosphotransferase
AB The title method comprises incubating an inorg. carrier coated with a peptide for 20-30 h at 20-40° with a 1-39° buffered solution of Dextran Blue at pH 8.0, and then incubating the washed and dried adsorbent with a 0.1-0.3% solution of the enzyme at pH 8-9 and 4° for 25-50 h. The enzyme was immobilized on Dextran Blue-containing silica gel coated with collagen.
AN 1991:674631 HCAPLUS <<LOGINID::20090713>>
DN 115:274631
OREF 115:46534c,46536a
TI Method for immobilizing polyphosphate-glucose phosphotransferase
IN Kowalczyk, Tomasz; Szymona, Olga; Wolski, Tadeusz
PA Akademia Medyczna, Lublin, Pol.

SO Pol., 3 pp.
CODEN: POXXA7
DT Patent
LA Polish
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI PL 152887	B1	19910228	PL 1987-265083	19870407 <--
PRAI PL 1987-265083		19870407 <--		

L5 ANSWER 13 OF 30 HCAPLUS COPYRIGHT 2009 ACS on STN
TI Carboxymethylcellulose-urea resin blend adhesives
AB The title adhesive, showing increased initial setting and reduced drying time, and useful for labels, contains 15-20% aqueous phosphorylated starch solution 0.3-0.5, dextran 2.6-3.6, and urea 0.9-1.1 weight%, in addition to Na CM-cellulose 2.6-3.4, and urea resin making up the balance to 100 weight%.
AN 1990:120279 HCAPLUS <<LOGINID::20090713>>
DN 112:120279
OREF 112:20389a,20392a
TI Carboxymethylcellulose-urea resin blend adhesives
IN Gavrish, G. A.; Savchenko, N. Ya.; Kozlova, N. Ya.; Mel'nichenko, I. V.; Liptuga, N. I.
PA All-Union Scientific-Research Institute of New Food Products and Additives, USSR; Institute of Organic Chemistry, Academy of Sciences, Ukrainian S.S.R.
SO U.S.S.R.
From: Otkrytiya, Izobret. 1989, (38), 111.
CODEN: URXXAF
DT Patent
LA Russian
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI SU 1514755	A1	19891015	SU 1987-4293505	19870803 <--
PRAI SU 1987-4293505		19870803 <--		

L5 ANSWER 14 OF 30 HCAPLUS COPYRIGHT 2009 ACS on STN
TI Red blood cell lyophilization medium containing a monosaccharide, or biocompatible polymer, and a polyanion
AB A process for lyophilization of erythrocytes comprises immersing erythrocytes in a buffered solution containing (1) 7.0-37.5% monosaccharide, (2) a 5000-80,000-mol.-weight polymer (0.7% to saturation), and (3) a polyanion (0.01 weight% to saturation), then freezing the solution and drying the erythrocytes by sublimation of the water. Thus, washed and packed erythrocytes were suspended in a lyophilizing buffer containing 21.7-26.3% glucose, 12.8% PVP (24,000 mol. weight), and 2.3% inositol hexaphosphate in either phosphate-buffered saline (PBS) or water (pH 7.2). Following lyophilization, the samples were rehydrated at 37° using a solution containing 25.5% sucrose in PBS, then pelleted. Recovery of cells and Hb were 62.0 and 61.7%, resp. Erythrocytes lyophilized in PBS alone resulted in no recovery of cells or Hb.
AN 1990:96252 HCAPLUS <<LOGINID::20090713>>
DN 112:96252
OREF 112:16331a,16334a
TI Red blood cell lyophilization medium containing a monosaccharide, or biocompatible polymer, and a polyanion
IN Goodrich, Raymond P., Jr.; Williams, Christine M.; Franco, Robert S.; Weiner, Murray

PA Cryopharm Corp., USA
SO U.S., 5 pp.
CODEN: USXXAM
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 4874690	A	19891017	US 1988-237588	19880826 <--
	ZA 8906468	A	19910130	ZA 1989-6468	19890824 <--
	EP 356258	A2	19900228	EP 1989-308673	19890825 <--
	EP 356258	A3	19900606		
	R: AT, BE, CH, DE, ES, FR, GB, GR, IT, LI, LU, NL, SE				
	CA 1313618	C	19930216	CA 1989-609409	19890825 <--
	JP 03072401	A	19910327	JP 1989-221399	19890828 <--
PRAI	US 1988-237588	A	19880826 <--		
	US 1989-373497	A	19890630 <--		

RE.CNT 15 THERE ARE 15 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 15 OF 30 HCAPLUS COPYRIGHT 2009 ACS on STN
TI A reinvestigation of the phosphorlyation of dextran with polyphosphoric acid: evidence for the formation of different types of phosphate moieties
AB The products of phosphorylation of dextran with polyphosphoric acid were re-investigated by gel filtration, potentiometric titration, and 31P NMR spectroscopy. Mainly (80-88%) alkyl phosphates were formed together with alkyl diphosphates and dialkyl phosphates, the percentages of which depended on the duration of phosphorylation. Mild acid treatment of the crude samples hydrolyzed the diphosphates and gave products with >95% of monophosphate structures.
AN 1989:194996 HCAPLUS <<LOGINID::20090713>>
DN 110:194996
OREF 110:32369a,32372a
TI A reinvestigation of the phosphorlyation of dextran with polyphosphoric acid: evidence for the formation of different types of phosphate moieties
AU Sacco, Daniel; Klett-Zygmunt, Daniele; Dellacherie, Edith
CS Lab. Chim.-Phys. Macromol., CNRS, Nancy, 54042, Fr.
SO Carbohydrate Research (1988), 184, 193-202
CODEN: CRBRAT; ISSN: 0008-6215
DT Journal
LA English

L5 ANSWER 16 OF 30 HCAPLUS COPYRIGHT 2009 ACS on STN
TI Interactions between dextran phosphates and human hemoglobin
AB Dextran phosphates were prepared by direct phosphorylation of dextran of .hivin.Mw .simeq. 36,000 by means of polyphosphoric acid. This reaction gives rise to a mixture of structures containing at least 80-85% of diprotic monoesters such as ROPO3H2, the other structures being more complex in particular with crosslinking chains such as -OP(O)(OH)OP(O)(OH)-. These chains can be hydrolyzed in acidic conditions leading to polysaccharide derivs. containing phosphates essentially under the diprotic monoester form. These various compds., in the presence of Hb, provoke a decrease of its affinity for O and this effect increases with the phosphate substitution rate and with the amount of -OP(O)(OH)OP(O)(OH)- chains. The covalent fixation of these polyanionic dextrans onto Hb should lead to the oxygen-carrier conjugates with high mol. weight and low O affinity, useful in blood transfusion.
AN 1988:443346 HCAPLUS <<LOGINID::20090713>>
DN 109:43346
OREF 109:7217a,7220a
TI Interactions between dextran phosphates and human hemoglobin

AU Zygmunt, D.; Labrude, P.; Vigneron, C.; Sacco, D.; Dellacherie, E.
CS Lab. Chim. Phys. Macromol., ENSIC, Nancy, 54042, Fr.
SO Journal de Chimie Physique et de Physico-Chimie Biologique (1988
), 85(2), 315-18
CODEN: JCPBAN; ISSN: 0021-7689
DT Journal
LA French

L5 ANSWER 17 OF 30 HCAPLUS COPYRIGHT 2009 ACS on STN
TI On the interaction of histones with polyanions
AB Histones precipitate from a solution of 0.14M NaCl with increasing concns. of
the
polyanions polypentose sulfate, dextran sulfate, inorg.
polyphosphate, heparin, or copolymer of ethylene-maleic acid,
forming complexes from which histones cannot be extracted by 0.25M HCl.
Affinities of the histone classes for polypentose sulfate were in
decreasing order, H4 .apprx. H3 > H2A > H2B > H1. At increased concns. of
most polyanions studied, complexes of histones with polyanions remained
partially soluble Complexes of histones with all polyanions used were
completely soluble in 2% SDS electrophoresis buffer, in 0.14M NaCl buffered
at pH 12, and in 2M NaCl buffered at pH 7.2. Solubilization of the
polypentose sulfate-histone complex in 2M NaCl was due to its dissociation
AN 1985:574277 HCAPLUS <<LOGINID::20090713>>
DN 103:174277
OREF 103:27935a,27938a
TI On the interaction of histones with polyanions
AU Stros, M.; Skalka, M.; Matyasova, J.; Cejkova, M.
CS Inst. Biophys., Czech. Acad. Sci., Brno, 612 65, Czech.
SO General Physiology and Biophysics (1984), 3(4), 307-16
CODEN: GPBIE2; ISSN: 0231-5882
DT Journal
LA English

L5 ANSWER 18 OF 30 HCAPLUS COPYRIGHT 2009 ACS on STN
TI Synthesis of 1-aminoethylidenebis(phosphonic acids) and their dextran
derivatives
GI For diagram(s), see printed CA Issue.
AB Dextrandialdehyde I (m = 110-270, n = 6-50), prepared by oxidizing dextran
with NaIO4, was treated with [(HO)2P(O)]2CRNH2 (R = Me, CH2CO2H; II),
prepared in 70 and 20% yields by phosphorylation of RCN, followed by reduction
with NaBH4 gave III [R1 = NHR2, OH; R2 = CR[P(O)(OH)2]2] via the
intermediate Schiff bases. Treating I with H2N(CH2)5CO2H and subsequent
reduction by NaBH4 gave III [R1 = NH(CH2)5CO2H, OH] which was treated with
N-hydroxysuccinimide and II (R = Me) to give III [R1 = NH(CH2)5CONHR2,
OH].
AN 1985:488144 HCAPLUS <<LOGINID::20090713>>
DN 103:88144
OREF 103:14169a,14172a
TI Synthesis of 1-aminoethylidenebis(phosphonic acids) and their dextran
derivatives
AU Serebrennikova, G. A.; Kol'tsova, G. N.; Chupin, V. V.; Chuvilin, A. N.;
Rozenberg, G. Ya.; Evstigneeva, R. P.
CS Mosk. Inst. Tomk. Khim. Tekhnol., Moscow, USSR
SO Zhurnal Obshchei Khimii (1985), 55(2), 440-4
CODEN: ZOKHA4; ISSN: 0044-460X
DT Journal
LA Russian
OS CASREACT 103:88144

L5 ANSWER 19 OF 30 HCAPLUS COPYRIGHT 2009 ACS on STN
TI Effects of hexachlorobenzene and iron loading on rat liver mitochondria

AB The effects of hexachlorobenzene [118-74-1] treatment and simultaneous Fe-overload on the Fe and porphyrin content of rat liver and rat liver mitochondria were examined In order to assess damages to the mitochondrial membrane occurring with these treatments, the content of malondialdehyde [542-78-9] and selected functional properties of mitochondria were compared with those from control animals. Prolonged intake of hexachlorobenzene (8 wk) resulted in a strikingly increased level of porphyrins together with a moderate increase in Fe concentration Simultaneous administration of hexachlorobenzene and Fe-dextran caused the porphyrin level to reach 25% of the amount induced by hexachlorobenzene alone. The Fe concns. in liver as well as in liver mitochondria are also decreased under these conditions, as compared to the effect of Fe-dextran. In contrast, the effects of hexachlorobenzene combined with Fe-dextran on mitochondrial oxidative phosphorylation and malondialdehyde content are greater than those of either hexachlorobenzene or Fe-dextran. Apparently, porphyrin accumulation per se causes little deleterious effect and both agents administered together act synergistically in causing damage to the mitochondrial membrane.
AN 1982:47170 HCAPLUS <<LOGINID::20090713>>
DN 96:47170
OREF 96:7675a,7678a
TI Effects of hexachlorobenzene and iron loading on rat liver mitochondria
AU Hanstein, Walter G.; Heitmann, Timothy D.; Sandy, Arthur; Biesterfeldt, Heika Liebau; Liem, Heng H.; Muller-Eberhard, Ursula
CS Inst. Physiol. Chem., Ruhr-Univ., Bochum, 4630, Fed. Rep. Ger.
SO Biochimica et Biophysica Acta, General Subjects (1981), 678(3), 293-9
CODEN: BBGSB3; ISSN: 0304-4165
DT Journal
LA English

L5 ANSWER 20 OF 30 HCAPLUS COPYRIGHT 2009 ACS on STN
TI Synthesis of water-soluble polysaccharides containing aminoalkyl derivatives of thiophosphoric acid
GI For diagram(s), see printed CA Issue.
AB A convenient preparation of aminoalkylthiophosphate derivs. of dextran, e.g., I [R = (CH2)3NH(CH2)2SPO3H2, (CH2)3SPO3HNa, m = 60-490, n = 1-100] by phosphorylation with gammaphos and cytaphos was carried out. A mechanism in which each oxygen linkage in the dextrandialdehyde chain reacts with a mol. of phosphorylating agent is confirmed.
AN 1981:533279 HCAPLUS <<LOGINID::20090713>>
DN 95:133279
OREF 95:22331a,22334a
TI Synthesis of water-soluble polysaccharides containing aminoalkyl derivatives of thiophosphoric acid
AU Bondarev, G. N.; Isaeva-Ivanova, L. S.; Krivenkova, S. N.
CS Leningr. Inst. Yad. Fiz., Gatchina, USSR
SO Zhurnal Obshchei Khimii (1981), 51(5), 1196-201
CODEN: ZOKHA4; ISSN: 0044-460X
DT Journal
LA Russian

L5 ANSWER 21 OF 30 HCAPLUS COPYRIGHT 2009 ACS on STN
TI Ion exchanger
AB An ion exchanger having high exchange capacity is prepared by phosphorylating a dextran-epichlorohydrin polycondensation product with H3PO4 in the presence of urea with subsequent heat treatment at 100-10°.
AN 1978:192042 HCAPLUS <<LOGINID::20090713>>
DN 88:192042
OREF 88:30221a,30224a

TI Ion exchanger
IN Makarova, S. B.; Aptova, T. A.; Litvak, Zh. M.; Raldugina, T. F.
PA USSR
SO U.S.S.R.
From: Otkrytiya, Izobret., Prom. Obraztsy, Tovarnye Znaki 1978, 55(10), 79.
CODEN: URXXAF
DT Patent
LA Russian
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI SU 597682	A1	19780315	SU 1976-2384529	19760707 <--
PRAI SU 1976-2384529	A	19760707 <--		

L5 ANSWER 22 OF 30 HCAPLUS COPYRIGHT 2009 ACS on STN
TI Gelation of Limulus lysate by synthetic dextran derivatives
AB A simple model of endotoxin, palmitoyldextran phosphate [63026-23-3], was prepared by modification of dextran by palmitoylation and phosphorylation and was used to evaluate the bacterial endotoxin-specific Limulus test. A variety of polysaccharide derivs., such as palmitoyldextran phosphate, palmitoyldextran [63026-27-7], and dextran phosphate [9041-77-4], gave a pos. Limulus test and showed pyrogenic activity, except for low mol. dextran derivs. On the other hand, polysaccharides, such as dextran, starch [9005-25-8] (soluble), chitosan [9012-76-4], xylan [9014-63-5], and lentinan [37339-90-5], were neg. in these assays. The gelation reaction of Limulus lysate by modified dextran derivs. may depend on the mol. weight or modification of polysaccharides by palmitoylation and/or phosphorylation to a great extent.
AN 1978:70161 HCAPLUS <<LOGINID::20090713>>
DN 88:70161
OREF 88:11055a,11058a
TI Gelation of Limulus lysate by synthetic dextran derivatives
AU Suzuki, Masuko; Mikami, Takeshi; Matsumoto, Tatsuji; Suzuki, Shigeo
CS Tohoku Coll. Pharm., Sendai, Japan
SO Microbiology and Immunology (1977), 21(8), 419-25
CODEN: MIIMDV; ISSN: 0385-5600
DT Journal
LA English

L5 ANSWER 23 OF 30 HCAPLUS COPYRIGHT 2009 ACS on STN
TI Preparation and antitumor activity of O-palmitoyldextran phosphates, O-palmitoyldextrans, and dextran phosphate
AB Three O-palmitoyldextran phosphates (PalDP) were prepared by esterification of dextran with palmitoyl chloride and polyphosphoric acid. One of the H2O-insol. PalDP showed 82% growth regression against sarcoma 183 ascites-tumor in mice when administered at 1 mg/kg/day for 5 days. The H2O-soluble PalDP showed 17% growth regression at the same dosage when administered alone and 83% when combined with mitomycin C. O-palmitoyldextrans and dextran phosphates were inactive in the inhibition of this ascites tumor. Thus, the existence of both fatty acid and phosphate groups is necessary to manifest antitumor activity in polysaccharides.
AN 1977:406278 HCAPLUS <<LOGINID::20090713>>
DN 87:6278
OREF 87:1021a,1024a
TI Preparation and antitumor activity of O-palmitoyldextran phosphates, O-palmitoyldextrans, and dextran phosphate
AU Suzuki, Masuko; Mikami, Takeshi; Matsumoto, Tatsuji; Suzuki, Shigeo
CS Dep. Microbiol., Tohoku Coll. Pharm., Sendai, Japan

SO Carbohydrate Research (1977), 53(2), 223-9
CODEN: CRBRAT; ISSN: 0008-6215
DT Journal
LA English

L5 ANSWER 24 OF 30 HCAPLUS COPYRIGHT 2009 ACS on STN
TI Preparation of biologically active dextran polyphosphate
AB Interferon inducers dextran polyphosphate ester are prepared by treating dried dextran [9004-54-0] with polyphosphoric acids. Thus, dextran (mol. weight 40,000) and a solution containing tetraphosphoric acid, DMF, and tributylamie were mixed and heated at 120° for 5 hr. After cooling to 25°, the product was precipitated by MeOH, dissolved in distilled H2O, and the pH-adjusted to 9-10 with N NaOH, and the free tributylamine was eliminated under reduced pressure. The solution was again precipitated with MeOH, and the precipitate was dissolved in distilled H2O, pH-adjusted to 7.2 with N HCl, dialyzed against distilled H2O, and precipitated with MeOH to give a white product.
AN 1977:161289 HCAPLUS <<LOGINID::20090713>>
DN 86:161289
OREF 86:25265a,25268a
TI Preparation of biologically active dextran polyphosphate
IN Suzuki, Shigeo
PA Japan
SO Jpn. Kokai Tokkyo Koho, 3 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI JP 51041083	A	19760406	JP 1974-113932	19741004 <--
PRAI JP 1974-113932	A	19741004	<--	

L5 ANSWER 25 OF 30 HCAPLUS COPYRIGHT 2009 ACS on STN
TI Effects of sucrose and dextran on the toxicity of lead to mitochondria in the presence of inorganic phosphate in vitro
AB Sucrose [57-50-1] and dextran [9004-54-0] enhanced the Pb2+ [7439-92-1]-induced decrease in mitochondrial phosphorylation rate in the presence of inorg. phosphate in a dose-dependent manner. Addition of ADP before the addition of Pb2+ to the mitochondria in a KCl medium with or without sucrose or dextran further enhanced the effect of Pb2+ on mitochondrial phosphorylation. The enhancing effect of sucrose, dextran, or ATP [56-65-5] (formed from the added ADP) was attributed to the chelation of Pb2+ by these compds. thereby increasing the Pb solubility
AN 1976:131016 HCAPLUS <<LOGINID::20090713>>
DN 84:131016
OREF 84:21265a,21268a
TI Effects of sucrose and dextran on the toxicity of lead to mitochondria in the presence of inorganic phosphate in vitro
AU Parr, D. R.; Harris, Eric J.
CS Dep. Biophys., Univ. Coll. London, London, UK
SO Biochemical Society Transactions (1975), 3(6), 951-3
CODEN: BCSTB5; ISSN: 0300-5127
DT Journal
LA English

L5 ANSWER 26 OF 30 HCAPLUS COPYRIGHT 2009 ACS on STN
TI Polysaccharides bonded with phosphoric acid and fatty acid esters

AB H2O-soluble polysaccharides (mol. weight 1-10 + 104) were reacted in any order with C12-18 fatty acid halides and phosphorylating reagents in DMF containing tertiary amines, to give the title compds. which are virus- and tumor-inhibiting. Thus, 1 part dextran (mol. weight 40,000) was suspended in a mixture of 100 parts DMF and 32 parts tri-n-butylamine, reacted for 2 hr at 110° with 10 parts polyphosphoric acid, mixed with 0.5 part stearic acid chloride, stirred for 2 hr at 20°, and centrifuged for 20 min at 4000 rpm to give a reaction product (stearoyl group 0.4, saccharide residue 30.6, and P 13.1 weight%).
AN 1975:564513 HCAPLUS <<LOGINID::20090713>>
DN 83:164513
OREF 83:25827a,25830a
TI Polysaccharides bonded with phosphoric acid and fatty acid esters
IN Suzuki, Shigeo; Suzuki, Masuko; Matsumoto, Tatsuji
PA Kowa Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 4 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 50054685	A	19750514	JP 1973-104285	19730914 <--
	JP 58004044	B	19830124		
PRAI	JP 1973-104285	A	19730914 <--		

L5 ANSWER 27 OF 30 HCAPLUS COPYRIGHT 2009 ACS on STN
TI Effect of changes in capillary blood circulation on some characteristics of energy metabolism of the myocardium
AB Combined treatment of rabbits with 0.5 g dextran [9004-54-0] (mol. weight 500,000) and 5 units vasopressin [11000-17-2]/kg, i.v. caused sinus bradycardia, arrhythmia, and altered the T-wave of the electrocardiogram accompanied by a 30-50% increase in myocardial mitochondrial respiration, a 28-45% increase in coupling of respiration with phosphorylation, a 38% increase in myocardial ADP [58-64-0] and a 42% decrease in myocardial ATP [56-65-5].
AN 1973:132178 HCAPLUS <<LOGINID::20090713>>
DN 78:132178
OREF 78:21195a,21198a
TI Effect of changes in capillary blood circulation on some characteristics of energy metabolism of the myocardium
AU Chernysheva, G. V.; Vakar, M. D.; Stoida, L. V.; Amarantova, G. G.
CS Inst. Norm. Pathol. Physiol., Moscow, USSR
SO Voprosy Meditsinskoi Khimii (1973), 19(1), 14-17
CODEN: VMDKAM; ISSN: 0042-8809
DT Journal
LA Russian

L5 ANSWER 28 OF 30 HCAPLUS COPYRIGHT 2009 ACS on STN
TI Absorption and enzymic inactivation of phosphorylated insulin after application per os
AB Sulfated insulin (SI), containing 6.1-6.4% S, was obtained by treating crystalline insulin with HSO3Cl in anhydrous pyridine by the method of Gebauer-Fuelnegg (CA 24: 1501). PI, containing 6.5-7.5% P, was obtained with POCl3 in pyridine in analogy with the phosphorylation of dextran according to Swiss patent 351,582. PI resists cleavage by pepsin and insulinase but is digested by trypsin and chymotrypsin. The hydrolysis of SI by proteases proceeds analogously as in insulin. Upon parenteral administration, the effect of PI is comparable to that of crystalline insulin but PI has a prolonged action. Orally applied PI is absorbed and the

effect of 20 units/kg. corresponds approx. to that of 25 mg./kg. butylbiguanide. In alloxan-diabetic rats with a fasting blood sugar level of 460 mg. %, there follows a marked drop of the blood sugar level after 100 and 200 units/kg. of PI applied per os.
AN 1968:19262 HCAPLUS <<LOGINID::20090713>>
DN 68:19262
OREF 68:3679a
TI Absorption and enzymic inactivation of phosphorylated insulin after application per os
AU Roubal, Zdenek; Zikmund, Emil; Franc, Zdenek; Padr, Z.
CS Vyzkumny Ustav Farm. Biochem., Praque, Czech.
SO Vnitrni Lekarstvi (1967), 13(4), 369-81
CODEN: VNLEAH; ISSN: 0042-773X
DT Journal
LA Czech

L5 ANSWER 29 OF 30 HCAPLUS COPYRIGHT 2009 ACS on STN
TI Oscillopolarographic detection and determination of polyanions: dextran sulfate, heparin, hyaluronate, and polyphosphate
AB cf. CA 61, 10319g. Oscillopolarographic detns. of heparin (I), dextran sulfate (II) (mol. weight 500,000), hyaluronate (III), and polyphosphate (IV) (average mol. weight 8900) were made. The best media for quant. determination were 1M citric acid for I (20 γ/ml.), II (20 γ/ml.), and IV (10 γ/ml.), and 0.5M NaOH for III (30 γ/ml.). Changing the concentration of the medium caused the inflection to undergo a corresponding shift in its Q value. Inorg. salts, especially those containing cations of higher valency, exerted an unfavorable effect on the determination Cations exerted a maximum effect on the inflection caused by II and IV, and a smaller effect on I and III. Anions, such as Cl-, Br-, I-, interfered with the determination of polyanions in citric acid media. The Qo values in 1M citric acid, 0.1M Na phosphate, pH 7, and 0.5M NaOH were, resp.: II 0.42, 0.40, 0.31; I 0.41, 0.31, 0.18; IV, 0.32, --, --; III --, 0.63, 0.40. IV could be determined in a citric acid medium in the presence of I or II. IV with mol. weight 1600-23,000 gave similar results. III did not interfere. II in citric acid medium was not influenced by III, and in NaOH medium I and IV were inactive. I could be determined with IV in citric acid. II influenced the determination, but III did not. III could be determined in NaOH in the presence of II where I and IV were inactive. RNA, particularly in concns. of 100 γ/ml. interfered with the determination The error of determination was .apprx.5% with individual compds., and 10% in mixts.
AN 1966:422634 HCAPLUS <<LOGINID::20090713>>
DN 65:22634
OREF 65:4244b-e
TI Oscillopolarographic detection and determination of polyanions: dextran sulfate, heparin, hyaluronate, and polyphosphate
AU Bohacek, Jiri; Singh, Chanan
CS Ceskoslov Akad. Ved., Brno
SO Analytical Biochemistry (1966), 15(1), 1-7
CODEN: ANBCA2; ISSN: 0003-2697
DT Journal
LA English

L5 ANSWER 30 OF 30 HCAPLUS COPYRIGHT 2009 ACS on STN
TI The effect of the composition of blood-preserving solutions on the rate of carbohydrate-phosphate metabolism in preserved blood

AB Polysaccharides and alc. as components of blood-preserving solns. affected the permeability of the cell membranes and inhibited phosphorylation. The extent of such inhibition depended upon the concentration of the alc. or the dextran; inhibition of the rate of phosphorylation was greater in lower mol. polysaccharide concns. than in alc. concns. Antiseptic solns. had no effect on the rate of phosphorylation. The longer the period of blood storage the greater were the described effects. This must be taken into serious consideration in blood preservation. T. recommends that all substances used as blood preservatives be classed into three groups according to their functional properties: (a) substances which serves as substrates, (b) substances which impede the metabolic processes and fix or block the erythrocyte surface, and (c) substances which prevent infection without having any notable effect on the fundamental metabolic processes of the cells.

AN 1959:100124 HCAPLUS <<LOGINID::20090713>>

DN 53:100124

OREF 53:18120h-i,18121a-b

TI The effect of the composition of blood-preserving solutions on the rate of carbohydrate-phosphate metabolism in preserved blood

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